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THIS IS UNEVALUATED INFORMATION

SOURCE Buletinul de Standardizare.

## DIFFICULTIES ENCOUNTERED BY SOVROMMETAL IN STANDARDIZATION

Engr A. Kottlar
Chief Tech and Production Dept
Sovrommetal

Sovrommetal (Soviet-Rumanian Metallurgical Enterprise), the most important production unit in Rumania, has undertaken measures to standardize its products according to government specifications. The State Standardization Commission has established standards of quality, called STAS (State Standard), for the most commonly used types of carbon steel, cast iron, chrome steel, alloy steel, and nonferrous metals and has fixed dimensional standards for rolled iron in order to increase the capacity of metal rolling mills.

The chaos which existed in the past due to the irregularity of materials has been eliminated by the establishment of standards for testing, analyzing, and identification.

The establishment of these standards involved complex problems and practical difficulties of application. The standards were at first regarded with hostility. The enforcement of standardization was handled by personnel who were too few in number and inadequately prepared. Consequently, protests were expressed against the program.

It is clear today that the problem was not accorded sufficient attention and preparation. Difficulties were still encountered in the Resita plant, for example, even after the creation of a special department for the application of standardization. There were numerous administrative delays, difficulties with clients arose, and investigations were made by inspectors of the State Planning Commission.



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The following examples illustrate the type of difficulties with which Sovrommetal has had to cope:

STAS 324-49 -- Special Adjustments, Dimensions, and Threads

The drawings which appear in the STAS contain several errors of execution and gauging, which are similar to mistakes made in the past with respect to standards.

The gauges at the Resita plant did not correspond exactly to the requirements set out in the STAS. Consequently, new gauges had to be made, causing delay in manufacture and in the application of the STAS.

STAS 329-49 -- Pump Parts and Pulley Blocks

Some consumers demanded pulley blocks which after cementation have a Rockwell hardness of 60; this specification is more rigorous than foreign standards. As a result of the process of cementation, the pulley blocks become so hard that it is very difficult to cut the inside thread. Tests will be continued in order to make possible production that measures up to the STAS, which has not yet been achieved.

STAS 535-49 -- Steam Pump for Mud

At first, this pump was provided with a forced oil feed, but because it was unnecessary, this provision is no longer specified. The pressure test was set for 350 atmospheres; this requirement was unreasonably high and unnecessary. Consequently, the test was revised to require a pressure of 262 kilograms per square centimeter.

STAS 564-49, STAS 565-49, STAS 566-49 -- Sectional Steel; Dimensions and Tolerances

Because of uneven roller dies, the prescribed tolerances could not be maintained. In order not to deprive the industry of this material, it was decided to postpone the adoption of these standards.

This situation led to the revision and reshaping of the dies in the foundry and grinding shop, and to the adding of a special grinding machine to the import list. This machine is already on order in the USSR and delivery is expected in the near future.

STAS 648-49 -- Granulated Slag of Blast Furnaces

Certain standards of quality have been prescribed for blast-furnace slag which is to be added to metallurgical cement. These specifications cannot at present be satisfied because of the present coke and mineral formula for furnace charges. However, because of the importance attached to this slag by the construction industry (prefabricated materials, cement, insulating materials, etc.), studies are under way for its improvement, by treating the slag after it comes out of the furnace, but before it is granulated.

The multiple and conflicting interests of producers and consumers make it extremely difficult to comply with the STAS for Anina, Doman, and Secul coal.

On the one hand, the producer, Sovromcarbune (Soviet Romanian Coal Enterprise), cannot meet the requirements of quality set by the plan. On the other, the consumer, Sovrommetal, cannot maintain STAS for iron because of the inferior coke obtained from Sovromcarbune coal.

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The STAS set a maximum percentage of ash allowable for each type of coal (Anina 10.5 percent, Doman 16.5 percent, and Secul 22.5 percent); in general these percentages have been exceeded to date. Sovrommetal agreed to the specifications for Doman and Secul coal; however, it contested the standard prescribed for Anina coal, because it is known that Anina coal is the basic material for the metallurgical coke used by this plant and that each one-percent increase in ash content reduces the furnace capacity by 1.5 to 3 percent, and that the present standard makes it impossible to comply with the furnace loadings required under the production plan.

Since Sovrommetal has become accustomed to the problems involved in the application of the standards, it is no longer necessary to dwell on the difficulties of a general nature with which it initially had to cope. The latter included: the short time which elapsed between the publication of the STAS and their effective dates; the difficulty encountered in procuring copies of the STAS, when, as in some instances, the supply was exhausted soon after publication; the insufficient number of copies printed; the insufficient time allotted for the production of new standards or the modification of existing ones; the rigid controls imposed immediately after the appearance of a STAS; the exclusion from the standardization plan of some important industrial commodities, i.e., special types of bronze; the difficulties of transporting production personnel to meetings to clear up debates over standards; the typographical errors in the STAS; the inadequacies due to the misapplication of STAS by various firms; the frequent postponement of meetings; the lack of facilities for analyses and tests.

These difficulties are inherent in an undertaking as complex as the fixing of standards. During 1950, much progress was made and the difficulties will be gradually eliminated as the application procedures become routine and as everyone in industry becomes aware of the necessity and importance of standards.

It appears, from the reports forwarded to the Ministry of Metallurgy and Chemical Industry, that Sovrommetal has been doing everything in its power to solve all the problems related to standardization, despite the numerous difficulties which arose and continue to arise.

During the past year, Sovrommetal complied fully with the plan for standardization received up to 15 November 1950, which comprised 25 standards. Over and above the plan, 11 additional projects were completed. At the same time, Sovrommetal contributed to the development of six new standards for animal-drawn plows, the first of which has already been applied at the Bocsa Romana factory.

Sovrommetal also cooperated with other concerns by assisting in the investigation of approximately 400 other standards, and collaborated with workers on the formulation of projects in which it was directly interested. Among the standards developed, those pertaining to the following are the more significant: parts cast from steel and cast iron; parts forged from carbon steel and steel alloys; the determination of steel components; tool steel; heavy square bars; silica bricks; naphthalene; pump units and speed-reduction gears.

Exceptional results were obtained with the latter with respect to quality, workmanship, the elimination of unessential guide marks, and reduction in weight and in the time required for production. The number of types of bearings has been reduced from 11 in the old series to six. This illustrates one of the great advantages of standardization, which in this case has been broadly extended as a consequence of advanced typification.

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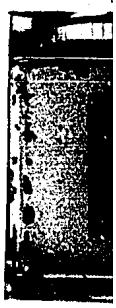

The gratifying results thus obtained prompted the Sovrommetal collective, as far back as December 1950, to apply standardization to overhead cranes and derricks, in compliance with STAS 800-49 and STAS 1100-50, in order to be in a position to cope with any exigencies which may arise in conjunction with realization of the Five-Year Plan.

The results obtained by the standardization of both the speed-reduction gears and the pump units are achievements of great importance.

The responsibility for maintaining high-quality production in accordance with the standards in force has been entrusted to the Department of Quality Control of the Sovrommetal plant. Accordingly, in 1950, this department was reorganized and was staffed with additional personnel. The importance of interoperational control and strict application of existing standards was stressed.

The initiation, verification, and discussion, of standards is carried out by the Standards Section of the Technical Service, in collaboration with all the plant technicians.

The results obtained in 1950 clearly demonstrate that Sovrommetal is faithfully applying the STAS, which constitute a basic step toward the realization and surpassing of the goals assigned to it under the Five-Year Plan.

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